

Why radiation therapy?

Radiation therapy (also called radiotherapy) is the use of high-energy rays, usually X-rays, to kill cancer cells. Radiation is very effective in killing fast growing cells like breast cancer. Some healthy cells are also damaged during radiation therapy, but

these can recover. Sometimes radiation is given before surgery to shrink tumor cells. But most often it's given after surgery to stop the growth of any cancer cells that may remain. This lowers the chance of the cancer returning (recurrence).

What to expect

The most common radiation treatment for breast cancer is external radiation therapy. It uses a large machine to direct a beam of radiation at the cancer site from outside the body.

A typical course of treatment is 5 days a week for 5 to 7 weeks. During this time, a woman receives small amounts of radiation daily to the entire breast or chest wall if the breast has been removed; and, if necessary, the lymph nodes. By using small amounts of radiation daily, less damage is caused to normal cells, allowing them to recover more quickly.

After the first course of treatment, a “boost” dose of radiation is given in the same area of the breast where the tumor was removed. There are two types of boost treatment. The most common one is given externally (as in the first course), and may last from 1 to 2 weeks. The other type of boost is called internal radiation therapy where a radioactive substance (an implant) is inserted into the tumor area. Usually the implant remains in the breast 2 to 3 days before it is removed.

Clinical trials are in progress looking at internal radiation (brachytherapy) and intra-operative therapy as treatment for breast cancer. These methods may prove to be alternative treatment options for some women in the future.

It is a team effort

Women having radiation therapy do not go through it alone. They have a whole team of people working with them to make sure they get the best treatment. This team may include:

- a radiation oncologist — to plan the treatment using radiation therapy;
- a radiation physicist — to make sure the machine delivers the right amount of radiation;
- a radiation therapist — to run the radiation therapy machine;
- a dosimetrist — to figure out how much radiation and how many treatments are needed;
- a radiation therapy nurse — to help manage side effects and provide information about the treatment; and,
- other team members may include a dietitian, physical therapist or social worker.



Knowing what to expect can help lessen your worries.

Step-by-step

Here is what you can expect during radiation therapy:

1. You will meet with your radiation oncologist to discuss your treatment in detail.
2. You will have a 1 to 2 hour planning session called a *simulation*. A radiation therapist will pinpoint the exact area which will receive radiation (called the treatment port). Treatment ports will be marked on your skin with indelible ink or tattoos. These marks help the therapist aim the radiation at the same area every time you have a treatment. Be careful not to wash these marks off, and tell your therapist if they start fading.
3. You will meet with a radiation therapy nurse to discuss skin care, diet and how to cope with possible side effects.
4. Your radiation oncologist, dosimetrist and radiation physicist will meet to decide how much radiation is needed, how it should be given and the number of treatments needed.
5. Your treatment will begin 1 to 2 days after the simulation. Daily treatment time ranges from seconds to several minutes, and is done on an outpatient basis. The treatment period is about 5 to 7 weeks.

After radiation treatment

Mammograms are recommended after lumpectomy and radiation therapy to make sure all the cancer has been removed. Mammograms of the affected breast should be done 6 months after completion of radiation treatment and then mammograms of both breasts should be done every 12 months.

It is recommended that you have physical exams every 6 months for 5 years following diagnosis. From then on, you will need physical exams every year.

Resources

Books

Breast Cancer: The Complete Guide 4th ed. by Yashar Hirshaut and Peter Pressman. 2004 (Bantam Books).

Mayo Clinic Guide to Women's Cancers by Lynn C. Hartmann and Charles L. Loprinzi. 2005 (Mayo Clinic Health Information).

The Breast Cancer Survival Manual 3rd ed. by John Link. 2003 (Henry Holt and Company).

Internet

Radiation therapy and you: A guide to self-help during cancer treatment by the National Cancer Institute. 2003. <http://www.nci.nih.gov/cancertopics/radiation-therapy-and-you>

Organization

National Comprehensive Cancer Network
www.nccn.org/patient_gls/_english/_breast/index.htm

Related fact sheets in this series:

- Radiation Therapy — Coping With Side Effects
- Making Treatment Decisions
- Clinical Trials